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ABSTRACT

There are many advantages of small schools: community acceptance, innovative teachers, faculty input in school administration, and a family atmosphere; however, smaller schools also have problems such as fewer staff members, little choice of teachers by students, fewer approaches to teaching, little use of specialists, and fewer books and materials. Increased state mandated graduation requirements increased pressure on small and rural high schools. This paper describes three alternative educational instructional delivery systems to help such schools overcome these shortcomings. Inter-district cooperatives could share facilities; resources, both human and material; or the benefits of technology. Financing of cooperative programs should be through ad valorem taxes and state appropriations proportional to the basic state aid formula. Expanded use of technology, satellite programming, telephone and computer linkages enable small schools to economically expand curriculum while eliminating class size restrictions and overcoming the lack of certified teachers. The use of area vocational technical schools as shared facilities for academic programming makes possible expanded course offerings. Each alternative instructional delivery system is reviewed in terms of its purpose to meet an existing or projected need in rural secondary education, its philosophy, its historical development and the current situation. This document contains 46 references. (DHP)

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ALTERNATE INSTRUCTIONAL DELIVERY SYSTEMS FOR RURAL AND SMALL SCHOOLS

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ALTERNATE INSTRUCTIONAL DELIVERY SYSTEMS FOR RURAL AND SMALL SCHOOLS

Prepared by

Donald Dale, Ed.D.
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Presented to the

Special Interim Committee on School Finance
of the Oklahoma Legislature

and the

Organization of Rural Oklahoma Schools

July 1986

EXECUTIVE SUMMARY

The issue of school size, particularly as it applies to rural school districts and during a time of dwindling financial resources and a call for deep educational reforms, is of high interest. Examined in this paper is the consolidation issue and the mandate for educational reform currently sweeping the country.

A history of rural cooperatives is reviewed and three alternative instructional delivery systems for rural high schools are suggested. These include the concepts of interdistrict cooperatives, either through sharing teachers, sharing facilities and equipment or some combination of both; distance learning utilization, including satellite programming, interactive two-way television, and computer education through microwave transmission, etc.; and then the use of the already in existence area vocational-technical school system in Oklahoma as a shared facility cooperative arrangement.

Each alternative instructional delivery system is reviewed in terms of its purpose to meet an existing or projected need in rural secondary education, its philosophy, its historical development and the current situation as it exists today (1986). Finally, a recommendation for financing cooperatives both short-term and long is suggested and a list of policy/procedural questions that should be used as guidelines for the development of cooperatives are posed for the interested reader.

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Last, but not least, a large thank you and vote of confidence to the legions of rural Oklahoma educators for their untiring efforts in the pursuit of quality educational programs for the school-age populations which they serve.

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INTRODUCTION

Some educational issues are like hardy perennials. They might not bloom every year, but to veteran educators it may seem so. The school size issue is one of these educational perennials. The question of what is the best or the most efficient school size has been discussed for decades, particularly with regard to rural school districts.

One side of the argument holds that efficiency requires the consolidation of small schools into larger ones for "an economy of scale." Of the 21 recommendations which James Bryant Conant offered for improving schools in his 1959 classic: The American High School Today: A First Report to Interested Citizens, the one receiving the most attention was reducing the number of small high schools in America. He perceived that they must be "drastically reduced through district reorganization" so that they could offer advanced classes in such areas as mathematics, science and foreign languages. "Aside from this important change, I believe no other radical alteration in the basic pattern of American education is necessary in order to improve our public high schools."

Conant's recommendation triggered a precipitous reduction in the number of small rural high schools and rural school districts. James W. Guthrie (1979) cites figures showing that between 1930 and 1972 the number of school districts in the United States dropped from 128,000 to 16,960, the number of schools from 262,000 to 90,800, and the number of one-room schools from 149,000 to 1,475. During this same 42-year time period, the population of the United States increased by 85,000,000, suggesting the number of additional students in these remaining schools.

OKLAHOMA SCHOOL
CONSOLIDATIONS, ANNEXATIONS, AND DISPERSALS
1946 to 1986

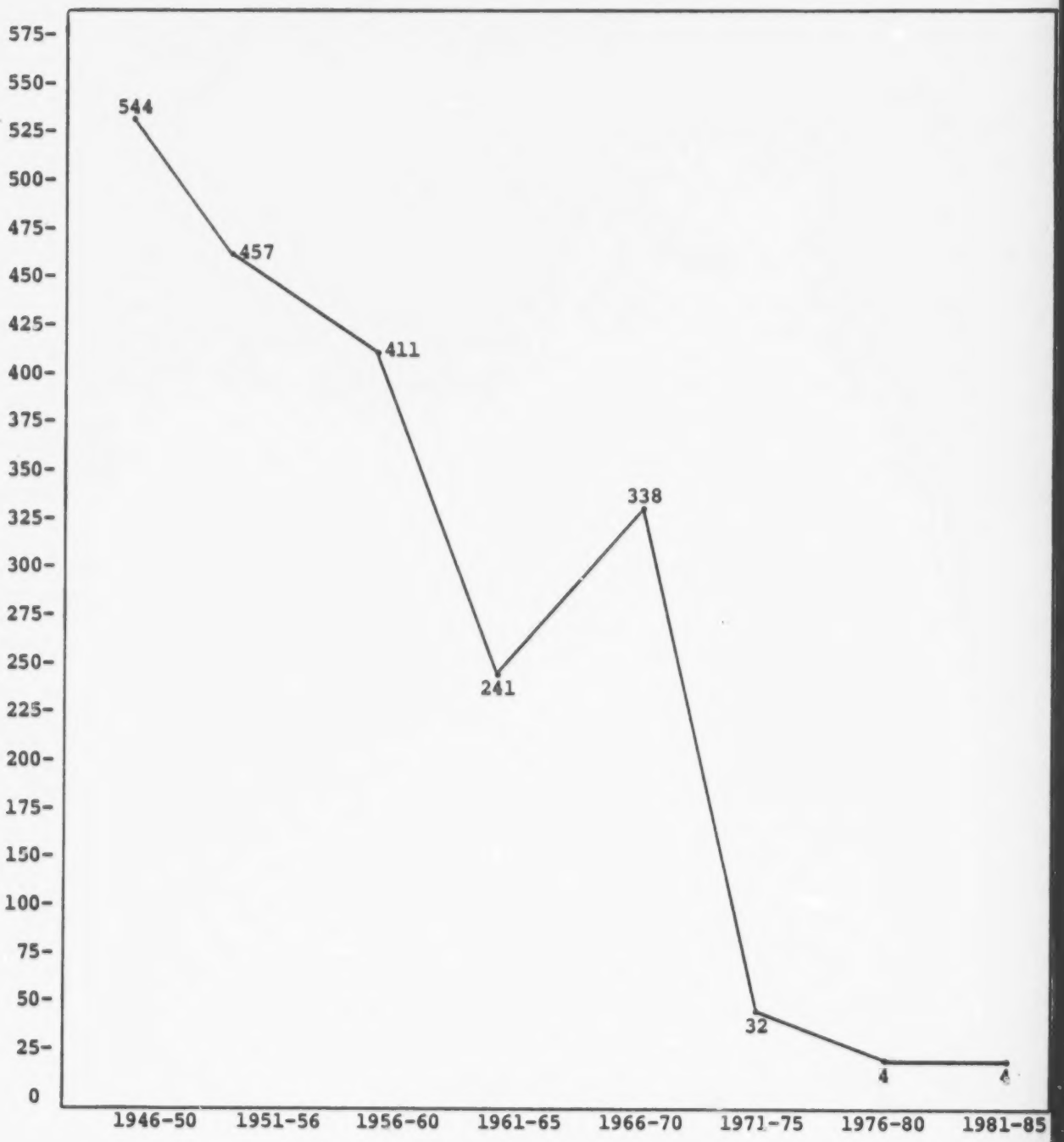

Figure I

Footnote 1: There were actually 1,786 consolidations, annexations and/or dispersals i
1946.

The Oklahoma experience in this movement is shown in Figure I. During the 40-year period from 1946 to 1986, the number of Oklahoma school districts decreased through consolidations, annexations, or dispersals from 4,450 to 613. As shown in Figure I, the number of consolidations, annexations, and dispersals by half-decade was fairly constant until the early 1970s. Since that time, the state has only experienced approximately 40 formal school district reorganizations.

Size Vs. Efficiency

Over the years, two groups of arguments favoring larger schools have carried the day. First, larger schools are cheaper to operate than are smaller schools. According to this economic argument, consolidating schools produces efficiencies of scale by reducing the number of administrators, teachers, librarians, and support personnel needed for a given number of students and by facilitating discount purchases, etc. The "larger is cheaper" argument is supported in specific studies by McGuffy and Brown (1978) who, for example, found that particularly at the secondary level, per student costs were higher in small schools.

However, if one again examines the Oklahoma experience, as shown in Table I, while the number of districts decreased, the state K-12 per capita expenditure based on average daily attendance gradually rose in every year except 1954-55. In fact, while the state was experiencing an average 12.1 percent increase in per capita expenditures for its common schools in the first decade in this review, (1946-47 to 1956-57) the state experienced nearly a 61 percent decrease in the number of school districts. This trend followed, although not as steeply, through the following two decades and into the early 1970s when the rate of consolidation slowed to almost zero by 1980.

TABLE I

COMPARISON OF OKLAHOMA NO. OF SCHOOL DISTRICTS
AND PER CAPITA EXPENDITURES - WWII TO PRESENT

Year	No. of Districts	10 yr. Change (%)	Per Capita Expenditure Based on ADA $	Annual Change (%)	10 yr. Avg. Chng. (%)
1946-47	4,450		113.84		
1947-48	2,644		143.43	26.0	
1948-49	2,338		158.37	10.4	
1949-50	2,332		186.04	17.4	
1950-51	2,177		-192.66	3.6	
1951-52	2,100		215.99	12.1	
1952-53	1,989		219.42	1.6	
1953-54	1,888		228.99	4.4	
1954-55	1,802		-224.37	-2.0	
1955-56	1,738	-60.9	239.73	6.8	12.1
1956-57	1,643		251.94	5.1	
1957-58	1,468		270.09	7.2	
1958-59	1,372		287.32	6.4	
1960-61	1,274		287.32	6.5	
1961-62	1,232		315.56	3.1	
1962-63	1,180		324.76	2.9	
1963-64	1,160		331.66	2.1	
1964-65	1,049		337.56	1.8	
1965-66	998	-42.6	422.16	25.1	17.6
1966-67	991		466.71	10.6%	
1967-68	955		483.11	3.5	
1968-69	888		521.88	8.0	
1969-70	695		566.71	8.6	
1970-71	677		623.29	10.0	
1971-72	653		677.94	8.8	
1972-73	642		716.47	5.6	
1973-74	636		794.60	11.0	
1974-75	629		894.47	12.5	
1975-76	622	-37.7	996.52	11.5	11.7
1976-77	621		1,129.16	13.2	
1977-78	621		1,284.18	13.7	
1978-79	620		1,456.45	13.4	
1979-80	620		1,654.27	13.6	
1980-81	619		1,894.93	14.6	
1981-82	617		2,177.02	14.9	
1982-83	616		2,472.47	13.6	
1983-84	614		2,513.83	1.7	
1984-85	613		2,624.86	4.4	
1985-86	613	-1.4	2,900.00 (est)	10.5	29.1

Source: Oklahoma State Department of Education

Of course, these data do not control or account for a comparison of costs if the number of school districts had remained the same as 1946, the starting date for this review. Also, not accounted for are the many new and revised curriculum requirements (e.g., kindergarten, elementary physical education, elementary guidance and counseling services, reduced class size, academic gifted and talented programs, to name only a few) mandated by the state legislature during the 40-year period. However, these additions to the required functions of the common schools of the state are mentioned more to remind the reader of the complexity and difficulty of comparing the cost of operating schools on size criteria than to defend or support small schools.

A comparison of Oklahoma's common school per-pupil costs for the period 1946-47 through 1985-86, after deflating relative expenditures based on the Consumer Price Index, is shown in Table II. It is interesting to note that:

(1) in the last 40 years, the state experienced the highest rate of increase in per-student expenditures in terms of real (constant) dollars while undergoing the most massive reduction of administrative units (school districts) in the state's history, and

(2) during the last decade, 1976-77/1985-86, while only dropping nine school districts from its official rolls and while increasing actual per-student expenditures by a factor of nearly three, the state's per-student expenditure rate increase, when controlled for inflation, was the second lowest in the four-decade period.

Thus, outside economic forces appear to have had a large influence on school consolidation in Oklahoma. Also, much of the western half of the state is so sparsely populated that transportation of students over long distances has become economically and temporally impractical in the last 15 years.

Quality and Comprehensiveness

The second group of arguments in favor of school reorganization concerns educational quality and comprehensiveness. Large schools can ostensibly provide special classes, hire better qualified teachers, and, generally, offer a broader range of classes in co-curricular and support activities.

TABLE II

OKLAHOMA PER STUDENT EXPENDITURE 1946-47 THROUGH 1985-86,
ACTUAL VS. REAL WHEN COMPARED WITH DECREASING NO. OF SCHOOL DISTRICTS

		Per Student Expenditure Based on ADA					
Year	No. of School Districts	Actual $ (Dollars)	Increment (%)		Constant $ (Dollars)	Increment (%)	
			Decade	Ave. Per Annum		Decade	Ave. Per Annum
1946-47	4450	$114	--	--	$100	--	--
1956-57	1643	252	121.1	12.1	175	75.0	7.5
1966-67	991	467	85.3	8.5	273	56.0	5.6
1976-77	621	1,129	141.8	14.2	364	33.3	3.3
1985-86	613	2,900 est.	156.9*	17.4*	511	40.4*	4.5*

*Represents percentage increment over nine-year period 1976-77 through 1985-86.

The problem with this argument, as cited by the critics, is that studies are not always in agreement, and, taken as a whole, the research contains many inconsistencies that lay it open to criticism. For instance, many of the studies on the question of economies of size are still unanswered because of conceptually or methodologically flawed designs. If the public and its elected and appointed leaders could agree on what constitute the absolute goals of education, and if the measurement experts could, with those given goals in mind, design instruments to determine progress toward achievement of those goals, then perhaps, it would be possible to assess a school's quality. In lieu of direct indices of quality, certain labeled variables have been chosen to measure what goes on in and what comes out of the system that we call schooling. These include input variables, which define what goes into an educational system (e.g., money, teachers, students), process variables which are concerned with what happens during the educational operation (relationships between teachers and students, the number of classes of different kinds offered, etc.), and output variables which measure what comes out at the end of schooling (test scores, student success in college, and student success in the work place). The recent emphasis on output variables such as student test scores and increased graduation requirements for admittance to college work has brought the use of these output variables into direct focus. However, there is little agreement on the reliability of these indicators as measures of school quality, particularly as they relate to school size.

For instance, Sher and Tompkins (1976) claim that no recent studies that control for intelligence and social class show a positive correlation between large school size and student achievement. Others argue similarly that the presence of teachers with advanced degrees and many years of experience, two

input variables which are built into practically every salary schedule in existence today, do not necessarily correlate with increased student achievement.

In response to the argument for greater comprehensiveness brought about by larger schools, the critics have shown that the range of classes and activities, although it does increase with school size, is not necessarily proportional to the increase in the size of the student body. The percentage of the student body that can be accommodated in extracurricular activities which may be a better measure of the overall quality of school life, was/is higher in smaller schools. In summary, it can be said that increased participation may well be a better indicator of school quality than the sheer number of curricular and co-curricular offerings.

Although there is no substitute for efficiency and holding necessary resource utilization to a proper minimum, many local factors must be taken into consideration when determining optimum size. As Fox (1981) notes, the cost function is a U shaped curve. That is, from its optimum size costs go up both with increases and with decreases in school size.

What then, in the absence of clear-cut support for the superiority of large or small schools on the basis of cost, comprehensiveness, and student achievement, should be used in the determination of the appropriate or best school size? One important area of concern during this time of dwindling resources is that of citizen and parent relationships with schools. It is clear that the public, particularly parents, favor smaller schools. Study after study show that: smaller schools were found to have teachers who were more innovative; emergent staffs who assume administrative responsibilities and have a voice in the running of the school; a family atmosphere in which children, teachers, and parents can know each other and create a supportive

atmosphere; close community relationships; and a principal who knows the staff and can make the best use of them. To these claims, reduced rates of violence and vandalism can often be added.

To be objective, many of these same studies also found that smaller schools had a number of shortcomings: staffing problems because of fewer staff members; little choice of teachers by the students; fewer approaches to teaching; little use of specialists; and fewer books, materials and pieces of equipment.

The limitations of small schools are significant but perhaps not insurmountable. Resourceful rural educators in Oklahoma, as well as nationwide, have found ways to deal with limited facilities, staffs and offerings while keeping an eye on costs. It can be shown that many small schools offer good programs with per-pupil expenditures that are lower than those of larger schools while offering a sound basic curricular program which equips the graduating student with the necessary tools to compete in higher education or in the post-secondary workplace.

The attempt to find ways to make the programs and costs of small schools acceptable has a great deal of appeal during the 1980s when schools of all sizes must retain all the friends they can get. Ample evidence shows that increased conflict in metropolitan areas over the closure of schools negatively affects support for the schools in financial elections. The same analogy with regard to the consolidation issue may be true in rural America unless the legislatures of the respective states can develop and implement financial incentives to effectively blunt these criticisms. To a large extent, the optimimum school size is the one that supports the kind of education the community at large wants at a cost it is willing to pay. As concluded in many of the studies which have been mentioned previously, the

determining factors of a school's quality were the principal's leadership, community support, and qualities of the staff. Perhaps this implies that the school officials need to be as concerned with parent-community conceptions of the quality of the schools as they are with the such issues as comprehensiveness and cost per student.

It was not the intent of the authors of this report to argue for or against optimum school size. Our purpose was, instead, to document and describe selected alternative educational instructional delivery systems which were not available to any great extent even as recently as five years ago. These proposed alternative solutions are directed primarily at the rural and small school leaders of Oklahoma and to states with a profile of small schools that are facing similar kinds of problems as Oklahoma. The following report includes first of all, a brief history of the evolution of rural and small schools in Oklahoma, then, a description of the nature of the problem of delivering a modern curriculum in the small and rural high schools and, finally, three alternative curriculum delivery systems which have either been attempted with outstanding success or are in the discussion stage for pilot testing.

Until recently, Oklahoma's major industries were agriculture and mining (oil and gas extraction). Most of Oklahoma's school districts (75-80%) are considered extremely small by national standards, and some 65% enroll fewer than 500 students--considered extremely small by most authorities. (See Table III) A great many of the state's districts are relatively large in area and isolated. As in the past, transportation is a problem. It is prohibitively expensive in view of distances and time involved.

At the present time, districts are allowed to remain open if they can meet accreditation standards and financial obligations. Any other decision to close is vested in the local population.

TABLE III

OKLAHOMA SCHOOL DISTRICTS
BREAKDOWN BY SIZE
1984-85

		INDEPENDENT				DEPENDENT				TOTAL			
	RANGE (ADM)[1]	N	%	CUM N	CUM %	N	%	CUM N	CUM %	N	%	CUM N	CUM %
A	31-100	3	0.66	3	0.66	70	44.59	70	44.59	73	11.91	73	11.91
B	101-300	127	27.85	130	28.51	75	47.77	145	92.36	202	32.95	275	44.86
C	301-500	114	25.00	244	53.51	11	7.01	156	99.37	125	20.39	400	65.25
D	501-800	67	14.69	311	68.20	1	0.64	157	100.00	68	11.09	468	76.34
E	801-1200	56	12.28	367	80.48	0	0.00	157	100.00	56	9.14	524	85.48
F	1201-2000	40	8.77	407	89.25	0	0.00	157	100.00	40	6.53	564	92.01
G	2001-5000	32	7.02	439	96.27	0	0.00	157	100.00	32	5.22	596	97.23
H	5001-20000	15	3.29	454	99.56	0	0.00	157	100.00	15	2.45	611	99.68
I	over 20000	2	0.44	456	100.00	0	0.00	157	100.00	2	0.33	613	100.00

[1]ADM: Average Daily Membership

THE IMPERATIVE FOR EDUCATIONAL REFORM

District Wealth and Population Sparsity

Two problems which have historically troubled education fiscal policymakers are: (1) the uneven geographic distribution of wealth measured both by property and income, and (2) sparsity of population in large areas of our country, which requires innovative solutions to the problem of offering educational services to rural youth comparable to the services offered in more densely populated areas. As mentioned earlier, in the past it was believed that school district consolidation was the obvious solution to these problems.

As we seek current solutions to these two problems, we note that the complications increase and are accompanied by an increase in the number of potential solutions. Our educational system was constitutionally designed to be controlled by states with school districts under the control of local decision makers. Local control is an essential element of our system. Added to this belief in local control is a strong belief in community education. Every identifiable community considers a school a part of its identity, and, in fact, in rural communities it can be argued that the two are so intertwined as to be inseparable. If one accepts that argument, it follows that decisions about consolidation are a strong threat to community survival. This is evidenced by the concern over school closings in urban as well as rural areas. A strong concern that has surfaced, perhaps heightened by the "busing issue," is the cost of transporting students over long distances, requiring considerable time to be spent en route to school. Transportation costs have become of vital concern to school administrators as these costs consume a greater and greater percentage of school budgets. These costs, together with the impact, especially on small children, of long bus rides, have given anti-consolidationists a strong argument.

A Nation at Risk

At the same time that methods are beings studied to conserve costs, educators across the nation are being challenged to drastically reform the course of education during the 1980s. The vanguard report: "A Nation at Risk: The Imperative for Educational Reform" (National Commission on Excellence in Education, 1983) highlighted the shortcomings of America's educational programs. The Commission set forth a number of recommendations addressing the span of education which ranged from strengthening high school graduation requirements to raising requirements for college and university admissions. The following curriculum for grades nine through 12 was recommended for completion prior to granting a high school diploma:

1. English - four years,
2. Mathematics - three years,
3. Science - three years,
4. Social Studies - three years,
5. Computer Science - one-half year.

The Commission's recommendations emphasizing the first four subjects above do not require that new subject content be added to the curriculum. Rather they emphasize an increase in the number of units offered and required.

An increasing number of state higher education coordinating boards have followed suit by raising entrance requirements, and the impact on many rural high schools is obvious. For example, an additional two years of foreign language for college bound students is encouraged by the Commission. This recommendation, already a requirement in some states, may soon be a basic element of the curriculum of all college bound students.

Rural Schools at Risk

This imperative for educational reform has not bypassed the rural schools, of course. The Rural Education Association (REA) has adopted a position statement:

> The REA encourages rural schools to review their high school graduation requirements and course offerings with the aim of strengthening the curriculum requirements in English, science, mathematics, social studies, computer science and foreign language. (Rural Education Association National Conference, 1983)

What special problems do these recommendations, if implemented, pose for rural schools? The question of sufficient funding notwithstanding, one of the most serious problems is staffing inadequacies, particularly as they pertain to the Commission's recommendations to add specific required courses to the curriculum. Small rural schools must hire a sufficient number of teachers to handle the basic subjects regardless of student population count. School personnel are concerned that the addition of more required classes would result in insufficient class sizes in some courses coupled with the need to hire additional teachers out of very limited and firmly set school budgets. Adding more required courses will reduce the number of students who are able to participate in elective programs. One state official reported that since the universities in that state have begun to stress higher academic standards for admissions, a 20 percent reduction in enrollment has been noted in the public vocational-technical schools in that state. In the case of adding and maintaining a special curriculum in foreign language, for instance, the specific decision points which might face a rural administrator include the following:

1. Which language should be offered?
2. What enrollment levels justify more than one year of offerings?
3. Where will I find a teacher certified to teach this special offering?
4. Will this teacher be willing to teach one or two periods of language and two to three periods of coursework not in his or her major?

If computer science were established as a graduation requirement, hiring a specialist teacher in this subject would create similar staffing and financial problems as in foreign languages. In addition, the cost of adding computers and good educational software can be a serious drain on school districts. Unlike urban schools, rural schools generally lack any type of private sector support for obtaining expensive equipment and supplies.

CURRICULUM REVIEW

Several aspects of curriculum in secondary schools have been the focus of concern: (1) consideration of basic subject requirements, (2) the number of units of credit required for graduation, and (3) requirements to enter colleges and universities.

The Oklahoma Curriculum Improvement Commission

The Oklahoma Secondary School Curriculum Improvement Commission was organized in 1952 by the Oklahoma Secondary Principals Association. In 1955, the name was changed to the Oklahoma Curriculum Improvement Commission, and the sponsors currently include the Cooperative Council for Oklahoma School Administration (CCOSA), the Oklahoma Department of Classroom Teachers, and the Oklahoma Association for Supervision and Curriculum Development. The membership of the commission is selected from these sponsoring organizations and from the 12 geographical districts of the Oklahoma Education Association.

A unique organization, the Oklahoma Curriculum Improvement Commission is incorporated under the laws of the state and is financed by dues paid by constituent members. All school systems receive curriculum guides, which the commission produces free of charge. This self-perpetuating commission has about 35 members, chosen from all sections of the state and from all levels of instruction. A plan of rotating membership ensures a steady but orderly revision of the roster. It has written, published, and distributed 30 curriculum guides, including revisions. Generally, the vertical approach (kindergarten through twelfth grade) has been followed in preparing each guide.

The director of the curriculum division of the State Department of Education (SDE) is the executive secretary of the commission, and the department furnishes secretarial assistance, office space, and equipment. The commission is an extension of the curriculum division and supplements its program in a definite and satisfactory manner. It helps to organize and promote meetings, conferences, and workshops designed to improve in-service training in most of the subject matter fields. Each year, the commission completes a volume of Successful Ventures in Contemporary Education and sends free copies to schools within the state.

Basic requirements have traditionally been in the areas of math, science, English, and social science. Foreign language has been the subject of some controversy as to its value. It was deleted as a requirement in the early '60s and has recently received attention as a highly desirable elective. In 1982, the SDE began designing a curriculum review model. Educators from across the state were assembled, and together with SDE personnel, began work. The model under discussion was compared with selected district curriculum review plans in order to compare the conceptual model with actual practice. The final product was given strong consideration when HB 1816 was passed in 1983. The bill defined "basic skills" and required districts across the state to implement a curriculum review process. This was an attempt to standardize curriculum and to eliminate problems that students who transfer from school to school or from other states encounter.

The curriculum review will become a part of a school improvement plan required of all districts by January 1987.

During 1984-85, the SDE began work on a publication entitled Suggested Learner Outcomes in order to set a standard of what is expected of students at a given level of their educational process. These suggested learner outcomes

became the basis for selecting tests for the statewide testing program implemented with third, seventh, and tenth grade students in March 1986.

State minimum high school graduation requirements were increased from 18 to 20 units in 1981. Former requirements were four years of English, one year of math, one year of lab science, one year of American history, and 1/2 unit of Oklahoma history. New requirements are four years English, two years math, two years of lab science, two years of social studies, plus ten additional units.

The College Connection

As a result of a task force effort of representatives of Higher Education, the State Department of Education, and high schools in Oklahoma, a guidebook entitled, "The College Connection" was published in 1983. It suggested that many of Oklahoma's college entrants could not demonstrate sufficient competence in reasoning, analysis, critical thinking, and written and oral expression. Also reviewed in this guidebook were the basic academic competencies, i.e., reading, speaking and listening, math, writing, reasoning and studying. Furthermore, the basic academic subjects were discussed. The "new" basics include English, math, science, social studies, foreign language, computer competence and the arts. A discussion of the effective school correlates research was included. The practices considered essential for a school to be effective include strong leadership, rigorous content, high expectations, varied teaching strategies, and regular evaluations.

Also discussed in the College Connection were graduation requirements adopted by the Oklahoma Regents for Higher Education in 1984. As shown in Appendix I, beginning with 1986-87, a phased-in set of graduation/college requirements will be in place for Oklahoma high school graduates with full implementation of the new admission standards beginning no later than the fall

of 1988. These requirements include four years of English, three years of math, two years of science (including two laboratory experiences for those planning to enroll and matriculate through four-year colleges and universities), and two years of social studies. A priority academic elective is two years of the same foreign language. Additional acceptable electives are computer science, economics, English, geography, government, history, math, science, speech, sociology, and psychology, with experience in the arts strongly recommended.

Summary

In summary, Oklahoma has raised the number of units required for high school graduation, redefined the "basics," and set new higher standards for college admission. Also, an attempt has been made to define expected learner outcomes and to examine the effective school correlates. These developments have been of considerable concern to rural Oklahoma educators as they seek to deal with more requirements and dwindling resources.

There is a tremendous diversity among our schools that defies common solutions to our problems. Progressive educators argue that though we have entered an information age and have made tremendous advances in technology, our educational system lags far behind in meeting the challenges of the future.

It is the purpose of this report to suggest ways that might result in improvement in the quality of schooling in sparsely settled areas in an economical and productive way. These will, in some cases, result in some departure from tradition.

RURAL COOPERATIVES

The concept of people banding together for a common purpose to enhance their economic status and/or quality of living was first initiated in the agricultural industry. This movement was operationalized in two distinct ways: 1) farmer cooperatives; and 2) the United States Cooperative Extension Service headquartered at state universities and land grant colleges in each of the 50 states of the union.

Farmer Cooperatives

Farmer cooperatives have long been in place to assist its members in farming and agribusiness to enhance their position in marketing their raw products at the most advantageous price while at the same time holding price of production at its lowest possible level through cooperative purchasing and management mechanisms. These purposes have become especially salient in the current era. The number of foreclosures and bankruptcies in the nation's farming and agribusiness industry rivals that of the Great Depression of 1929-32 and makes it ever more important that farmers and cooperative leaders find more efficient ways to produce and market their raw products at a level that will allow them to remain in business. The success of this movement in the next few short years has vast implications for the small and rural schools of the nation because of rising tax delinquencies as farmers and agriculturally dependent businesses find themselves unable to meet tax bills.

The U.S. Cooperative Extension Service

"Co-op Extension," as it is most familiarly known throughout the land, is a vast partnership made up of local residents, the state land grant universities, the U.S. Department of Agriculture, and county governments throughout the nation. All these groups share in planning, financing, and operating extension programs. The formal initiation of this program came

about in 1914 with the passage of the Smith-Lever Act. The charge of the Act was:

> "...to aid in diffusing among the people of the United States, useful and practical information on subjects relating to agriculture, uses of solar energy in relation to agriculture, home economics, and rural energy and encourage the application of the same...extension work shall consist of the giving of instruction and practical demonstrations in agriculture, uses of solar energy in respect to agriculture, home economics, and rural energy and subjects relating thereto to persons not attending or residents in said colleges in several communities, and imparting information on said subjects through demonstrations, publications and otherwise for the necessary printing and distribution of the information..."

This system of cooperative dissemination of practical information to farmers and agricultural businesses when coupled with its natural partners in the triad of the university education system, research, instruction and extension, has indisputably made the United States the most productive agricultural producing nation on the face of the earth and in the history of the world.

Characteristics of the Modern U.S. Cooperative Extension Service

1. It is educational in program content and methodology, not regulatory or financial.
2. It provides informal, noncredit education conducted primarily beyond the classroom and for all ages. It helps people identify and solve their own problems.
3. It is typically research based information with a free flow of communication among research, extention and resident teaching functions of the state university system.
4. It functions through local offices which are semi-autonomous.
5. It involves cooperative but not necessarily equal sharing of financial support among federal, state and county or local levels.
6. It requires cooperative but not necessarily equal sharing of program development.
7. It is practical, problem-centered and situation based.
8. The funding and administrative relationships permit education programs directed at broad national purposes, yet focused on priorities determined locally.

9. It is a professional function manned by college trained personnel specifically qualified for their positions. (A People and a Spirit, 1968).

Thus, we have two examples of agricultural cooperative services in the rural communities of the nation that can serve as models upon which to build a cooperative system of secondary education for rural and small high schools of Oklahoma and the United States.

A REVIEW OF THE OPTIONS

The remainder of this report contains a brief discussion of three (3) suggested alternatives to the conventional delivery of academic instruction to students in small and rural high schools in the USA. These include interdistrict cooperatives, the use of technology, and utilization of Oklahoma's Area Vocational-Technical School (AVTS) system as a shared facility for the delivery of academic coursework for high school juniors and seniors. Barker (1985) provides an excellent synopsis of 31 model programs throughout the USA which have been piloted, and, in some cases, institutionalized for the purpose of "maintaining and/or expanding curriculum offerings in small and rural high schools." The interested reader is directed to this source for a more in-depth review of the potential for alternatives for the delivery of secondary academic instruction in rural and remote areas of the nation.

Each selected alternative instructional delivery system reviewed herein is cited in terms of its purpose, philosophy, history, and current situation, and, where appropriate, examples are given.

Finally, (1) a recommendation for financing interdistrict cooperative programs and related assumptions, limitations, procedures, and conclusions is suggested; and (2) a set of questions of interest to planners and practitioners who are considering the implementation of alternate methods of delivery instruction in rural America are proposed for review and deliberation.

Interdistrict Cooperatives

Purpose

In education, of course, the rationale for a cooperative venture between school districts is to "share" in order to better provide for the education of students. Cooperatives are known in the literature by several labels. They includes cooperatives, combines, leagues, alliances, consortia, etc., but they all stand for the same principle: "providing a representative process for districts to cooperatively accomplish tasks based on common and critical needs." (Oklahoma State Department of Education, 1985)

There are several categories of co-ops, depending on what they share. Some share facilities, some share resources--both human and material--and some share the benefits of technology. In practice, most share a combination of the above.

Philosophy

Grant monies should provide "start up" assistance "seed money" to serve special needs and/or special categories of students. The commitment to co-op activities should be long-term to establish a trust relationship among participating districts. Ready access to technical assistance and involvement of interested/committed persons from institutions of higher education and the State Department of Education are important. Co-ops work best with no fewer than three but no more than seven or eight members. Distance between members should be reasonable to facilitate the sharing of services and/or programs. Organizational bureaucratic structure should be kept at a minimum and leadership should be informal because size does not dictate formal organization. The existence of the co-op should be based on "need" as documented through a formal needs assessment.

History

Cooperative efforts by school districts in Oklahoma have been in the past primarily concerned with serving handicapped students and have been financed largely through federal "flow through" money. In 1984-85 there were 59 special education co-ops serving approximately 21,000 Oklahoma students and 442 school districts. The per pupil cost was $224.00. They employed approximately 144 teachers, 20 administrative personnel, and 91 support personnel at a cost of approximately $4,603,000.00.

The Current Situation

The first session of the Fortieth Legislature (1985) funded competitive grants totaling $1 million to support educational cooperatives in the rural independent and dependent school districts of Oklahoma. Shown in Appendix II are the participants in the first year (1985-86) of programming of this venture, by Local Educational Agency (LEA), county, type of cooperative, and funding.

Also, as shown in Table IV, the Oklahoma Small School Cooperative Program is analyzed by type of cooperative, number of participating agencies, and the funding breakdown. There were 55 grantees in the first year of the project with 86 participating school districts (73 independent and 13 dependent), and five institutions of higher education (IHEs). The average grant size was $18,181, and, assuming the money was divided equally among participating school districts, the average district grant was $11,627. Of the million dollar allocation, 35% went to school districts for their direct participation in the Oklahoma State University German I Satellite Program. The majority of these funds was used to purchase hardware (i.e., satellite signal receiving equipment, microcomputers, voice entry terminals) and software. Also, the cost of subscribing to this service was an allowable charge under this program.

TABLE IV

STATE OF OKLAHOMA
SMALL SCHOOL COOPERATIVE PROGRAM
1985-86

Type of Cooperative	Participating Agencies: No. of Grants	Districts Ind.	Districts Dep.	IHE's	Funding: Grant Average	District Average	Grant Range	Total Funding
1. IHE/Foreign Language	30	32	0	1	$11,670	$10,940	$9,009-$16,398	$ 350,108
2. Shared Teacher								
(a) Foreign Language	6	12	0	0	21,615	12,969	7,508-27,272	129,688
(b) Music	3	2	4	0	24,076	12,038	21,050-30,000	72,229
(c) Computer Education	2	1	2	0	20,525	13,683	20,000-21,050	41,050
(d) Science	1	3	2	0	26,943	5,299	NA	26,943
(e) Combination of 2a-d	9	15	5	0	31,436	14,146	16,482-50,000	282,924
Sub-Total Shared Teacher	21	33	13	0	26,325	12,018	7,508-50,000	552,834
3. IHE/Computer Education	3	3	0	3	65,519	21,840	14,600-30,000	65,519
4. Combination of 2 and 3	1	5	0	1	31,539	6,308	NA	31,539
Total	55	73	13	5	$18,181	$11,627	$7,508-50,000	$1,000,000

A further description of the innovative and unique satellite delivery program is given in the following section.

Also, as shown in Table IV, over 55% of the small school cooperative funding went to 44 districts for shared teacher services and related materials, supplies, equipment, and travel. Foreign language instruction, primarily Spanish, French, and German, was the predominant subject matter provided for under this category of funding. Surprisingly, computer education, science, and mathematics (not shown) received a minor amount of the money allocated under the first year small school cooperative program.

Presented in Table V is an analysis of the categorical spending incurred by the 55 grantees in the first year (1985-86) of the Oklahoma Small School Cooperative (OSSC) program. As might be expected, the majority of the money (84%) was expended for personnel services (including salaries, fringe benefits, and related contractual services) and one-time equipment purchases (e.g., satellite receiving equipment and computer hardware).

Due to the severe downturn in the Oklahoma economy, the OSSC program was renewed at a reduced amount by the second session of the 40th Legislature of the State of Oklahoma for the 1986-87 school year. The amount appropriated for the second year of the program was $900,000, and the former guidelines are in place for competitive grant proposals for the new school year. These include:

1. Academic subject matter may include mathematics, science, foreign languages, computer education, and music.
2. Local Education Agency (LEA) grant recipients must have an average daily attendance (ADA) of 800 (K-12) or less. Larger enrollment schools may participate as "co-members."
3. OSSCs may include alliances between one or more LEAs and Institutions of Higher Education (IHEs).
4. LEA grant recipients may only act in that capacity for one (1) year.
5. No OSSC program shall receive more than a total of $50,000.

TABLE V

OKLAHOMA SMALL SCHOOL COOPERATIVES
1985-86

EXPENDITURE CATEGORIES
BY $ AND %

Category of Expenditure	$	%
1. Personnel (incl. Contracted Services)	$398,490	39.8
2. Instructional Materials	123,132	12.3
3. Equipment	441,284	44.1
4. Transportation	33,451	3.3
5. Other	3,643	.4
Total	$1,000,000	100.0

Source: Oklahoma State Department of Education

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As legislated, the 1986-87 OSSC program includes the additional following restriction:

> "...Each calculated award shall be reduced by twenty-five percent (25%) for each district participating whose previous year per-student revenue (less federal) is greater than one hundred fifty percent (150%) of the state average." (Section 38, SB 426; 2nd Session of the 40th Legislature, 1986)

This latter restriction will affect some 73 districts in the coming year. Theoretically, if four (4) or more districts whose financial situation meets the above criteria attempt to apply for a competitive grant under this program, there would be zero (0) dollar ($) award.

Project Examples

The following descriptive examples of cooperative programs are given to assist the reader in understanding the nature, variety, and scope of the projects supported under the first year of the Oklahoma Small School Cooperative Program.

Challenge '85 An interdistrict cooperative effort between Salina, Locust Grove, and Choteau Independent School Districts serves as an example of an innovative and exemplary program wherein three small rural high school districts combined to renovate a former dependent school district building located in Mayes County, Oklahoma, on Lake Hudson. The purpose of the renovation was to use this building to offer advanced subjects to high achieving high school students. The use of a neutral site, although somewhat unique, is advantageous. The advantages of creating a new peer group of high achieving students resulted in outstanding competition and achievement by the 23 students participating in these programs. In essence, the three school districts share a facility and human and material resources in an efficient way to offer high school students advanced subjects,i.e., science, mathematics, computer education and foreign language, in a three-hour block of time that most likely would not be available, at least on the level of expertise as is provided, at the home high school.

Shared Teacher Program The Snyder, Indiahoma, and Roosevelt Independent School Districts located in southwest Oklahoma are sharing materials, satellite technology, and facilities located at Snyder in order to offer students German I, French, and band. It is clear that the students would not otherwise have this opportunity if it were not provided through this cooperative effort.

Use of Technology

Purpose

The primary purpose of the use of technology, satellite programming, telephone and computer linkages, fiber optics, etc. is to expand course offerings. The expanded curricula can be offered more economically than would otherwise be possible. Additionally, class size restrictions and lack of certified teachers--two common problems--are eliminated.

Philosophy

Simply stated, the various communication technologies now available allow educators to process and transmit information much more effectively and efficiently than they can move people. In short, it is cheaper to move information to students than to move students to the source of the information. It provides for retention of local autonomy and local control of education. It also allows for an appropriate and effective match of expert instructors and maximum numbers of students.

History

At the December 1984 meeting of the Oklahoma State Board of Education, a pilot program was approved for the Beaver School District to offer German via teleconference classes from Oklahoma State University (OSU). Three thirty-minute programs were presented each week by Dr. Harry Wohlert, Professor of German at OSU. Dr. Wohlert does not possess a standard teaching certificate. There was a secondary teacher in charge of the class. She also does not hold a certificate in German, therefore, the need for special permission.

Current Situation

In 1985-86, 50 Oklahoma high school districts received the German I course by satellite from OSU. There were approximately 600 students in the program. Subscription cost was $1,550.00 per district (including "down link" of signal, plus appropriate software and instructions). Additional "start-up" costs were approximately $5,000-7,000 for satellite receiving equipment, computer hardware and software, textbooks, etc. This would compute to approximately $666.00 per student served. Future costs will be much lower as this figure reflects non-receiving start-up costs. A cost comparison of delivering instruction by satellite in Oklahoma vs. conventional means is shown in Table VI.

As noted earlier in Table IV, 30 satellite programs were funded by legislative seed grants in the first full year (1985-86) operation. Considerable economy can be expected as plans are to offer German II and Physics in 1986-87, and, tentatively, Japanese, Russian, Calculus, etc. in 1987-88. It is estimated that the number of participants will double in the near future.

The school districs of Beaver, Balko, Turpin and Forgan in Beaver County, Oklahoma, plan, when resources become available, to establish an instructional two-way interactive television system. This system will be developed by use of a microwave network which will transmit from towers to be located at each respective school district site. This electronic cooperative, similar to the East Central Minnesota Educational Cooperative, will include television cameras and monitors in each of the respective school districts. An instructional presentation can be viewed by the other schools within the cooperative. The instructor can, in turn, view the students and classroom activity in the participating schools. Each of the four school districts will

TABLE VI

COMPARISON OF OKLAHOMA STATEWIDE COST OF DELIVERING SECONDARY CURRICULUM BY SATELLITE VS. CONVENTIONAL METHOD(S) (1985-86)

	PROGRAMMING BY SATELLITE		CONVENTIONAL[1]	
Category	Local	Statewide[2]	Local	Statewide[3]
Personnel	$6,150[4]	$307,500	$24,600[5]	$1,845,000
Materials, Supplies, Software, etc.	1,550[6]	77,500	1,800	60,000
Equipment	7,000[7,8]	350,000	--	--
Overhead (.15)	2,205	110,250	3,810	285,750
Total	$16,905	$845,250	$29,210	$2,190,750

Ratio of Conventional to Satellite (Distance Learning) Cost on Statewide Basis: 2.59:1

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[1]Lecture and recitation

[2]Assume 50 receiving sites

[3]Assume 600 students with an eight-to-one student-to-teacher ratio.

[4]One-quarter time local coordinator; non-certified in subject area

[5]Average 1985-86 Oklahoma teacher salary including fringe benefits and a student/teacher ratio of eight to one

[6]Includes OSU subscription fee

[7]Includes receiving equipment, voice entry terminals, and microcomputers

[8]Non-recurring cost after Year One

have the capability of being the host school within the cooperative to allow the qualified instructors in advanced and special courses to be shared. It will also allow for the rotation of course offerings among districts.

The Use of Area Vocational-Technical Schools (AVTS) as a Shared Facility

In the recent past educators have looked at the possibility of expanding the function of the Oklahoma area vo-tech schools (AVTS) to include services normally provided by intermediate units.

The function of the AVTS in Oklahoma, although created to provide a specific service, can best be compared to the usual function of intermediate units. The vo-tech district will, in most cases, encompass several public school districts. Area vo-tech schools are not cooperatives in the usual sense of the term, but they were created as an alternate delivery system for vocational technical education for secondary students.

Purpose

The 24 Oklahoma AVTS districts make available a variety of programs to the citizens of its member school districts with the goal of providing skilled workers with entry-level competency. The single objective is providing productive, skilled workers for the increasing needs of business and industry.

Philosophy

The concept of vocational-technical education embraces training for all who need it. Specifically, the Vocational Education Act of 1963 provides for: training of high school students, full-time study for persons who have completed or left high school, training for persons employed but in need of training or re-training to achieve stability or advancement in employment, and training for persons who have academic, socio-economic, or other handicaps which prevent them from succeeding in the regular educational program.

History

The Vocational Education Act of 1963 mandated the creation and designation of area vocational and technical schools. There are over 3,000 such schools in the nation now. An amendment to the Oklahoma State Constitution in 1966 provided for creating formal vocational-technical education districts. AVTS's are financed by approximately 50% state and federal funds and 50% local funds. Federal funds have financed 80-90% of some schools in eastern Oklahoma.

The Oklahoma State Board of Vocational Education has set minimum requirements for a legal designation as an AVTS. Included in the service area are the minimum requirements that the service area should include: (1) a population of at least 50,000 or a 50-mile radius, and (2) a minimum of 400-500 eligible-aged (junior and senior high school) students.

Current Situation

There are currently 41 AVTS campuses in Oklahoma, within 24 AVTS school districts. As shown in Table VII, the Oklahoma AVTS system currently serves approximately 70% of the high school (independent) school districts in the state, and nearly 85% of the state's student population which are enrolled in those districts. By the same token, 67.2% and 71.7% of the independent districts and students in the independent districts with K-12 enrollments of 800 or less are served. This fact is relevant because many of the smaller districts located in the extreme western counties of Oklahoma are not currently participating in an AVTS program for whatever reasons (e.g., long travel distances, small numbers of students, sufficient local wealth to support an appropriate secondary vocational-technical education program).

TABLE VII

OKLAHOMA
INDEPENDENT AND AVTS HIGH SCHOOL DISTRICTS
1984-85

	Oklahoma Independent School Districts					AVTS High School			
Group	ADM Range	N	Total ADM	9-12 Enrollment[1]	AVE. H.S. Enrollment	Districts N	Districts %	ADM N	ADM %
I	85-100	3	268	76	25	1	33.33	89	33.02
II	101-300	127	27,022	7,688	61	78	61.42	17,654	65.33
III	301-500	114	44,921	12,780	112	83	72.81	34,115	75.94
IV	501-800	67	42,579	12,114	181	47	70.15	30,450	71.51
	Sub Total:	311	114,790	32,658	105	209	67.20	82,308	71.70
V	801-1200	56	54,779	15,585	278	45	80.36	37,151	67.82
VI	1201-200	40	60,820	17,303	433	28	70.00	47,516	78.13
VII	2001-5000	32	98,994	28,164	880	24	75.00	77,470	78.26
VIII	5001-20K	15	143,770	40,902	2,727	15	100.00	143,770	100.00
IX	20K+	2	84,090	23,924	11,962	2	100.00	84,090	100.00
	Sub Total:	145	442,453	125,878	868	110	75.86	389,997	88.14
	Grand Total:	456	557,243	158,536	348	319	69.96	472,305	84.76

[1]Approximation: State Average applied to total Average Daily Membership to obtain data in column.

Limited progress has been made to date toward expanding the AVTS role as a shared facility for academic programming. One academically related program is underway at Spring Lake Area Vo-Tech for academic drop-outs in cooperation with Oklahoma City Public Schools. A program for academically gifted students, previously mentioned, is housed at the Great Plains Area Vo-Tech School in Lawton. Seven rural schools combine efforts to provide activities for approximately 70 gifted students. The AVTS serves as the site for the program and provides office space and secretarial help for the coordinator of the program. Plans have been made for eight districts served by the El Reno AVTS to use the vo-tech site to participate in the OSU secondary education satellite program in 1986-87.

There are several advantages to be gained from using AVTS facilities as a shared facility for advanced programming at the secondary education level in Oklahoma:

1) The transportation system logistics and policies are established and operating.

2) Since the area schools function to serve adult students as well as public school students, the facilities are not fully utilized during the school day.

3) They are well equipped and offer the space and, in some cases, technical equipment that would complement an academic program.

4) Calendars of "sending" schools are usually synchronized.

5) The potential of creating a new "peer" group and the possibility of expanded courses are very interesting.

There are problems associated with bringing students to a common site. It potentially removes student leader role models from the home high school for a substantial part of the day. It "contaminates" the vo-tech mission, and it creates the potential for loss of local control of education.

Summary

We do not suggest that there is one best solution to the problems associated with schooling in small rural districts in Oklahoma. Generic solutions seldom exist. Perhaps the solutions lie in a montage of strategies, several of which could be made available to any one district or group of districts. Our intent here was to suggest a few selected possibilities and to project their potential.

FINANCING INTERDISTRICT COOPERATIVE PROGRAMS FOR OKLAHOMA SCHOOLS

The provision of funds to support the planning, establishment, and continuing operation of cooperative programs shared by Oklahoma school districts should be accomplished through both local and state resources. In order to provide sufficient revenue and to establish a standard of equity, cooperative program support for each district should be provided from ad valorem taxes and from state appropriations in the same proportion as those sources supply revenue through the basic support formulas for that district. The qualification for such support would include evidence of organized planning, joint approval by the boards of education of the cooperating districts, and review and approval by the state department and the state board of education.

This approach to funding would continue the concept of local control (through a measure of local support and local initiative) as well as provide incentives through the state for the continuation or expansion of educational offerings to the students of Oklahoma's public schools.

Assumptions

In order for this program to be most effective, it is assumed that the following will be accomplished:

a) removal of constitutional restrictions on the levy of ad valorem taxes by local school districts;

b) reform of the appraisal and assessment practices in the ad valorem tax system;

c) consolidation of hold-harmless, teacher and support personnel salary adjustment, staff development, text and classroom supply, and similar categorical appropriations with the formula appropriations for distribution through the basic support formulas; and

d) consolidation of dedicated revenues (including gross production and vehicle taxes) with the state general fund revenue as well as corresponding increases in the basic support formula appropriations.

Procedures

The basic process for the establishment of cooperative programs by school districts would begin with joint needs assessment and planning procedures, which would be funded by a planning grant from the state. This grant would be issued by the State Department of Education upon receipt of a request signed by the superintendents (principals for dependent districts) and the board presidents of the districts involved in each such planning effort. Dependent upon the availability of funds for such support, the amount of each grant would be determined by the legislature.

The result of each planning effort might be the development of a detailed description of the desired cooperative plan. This would include the programs to be established, rationale, costs, staffing, transportation, projected enrollment, and other details. This document would be approved by each of the participating boards of education and then forwarded to the State Department of Education.

At the state level, each plan would be evaluated by state department personnel with a recommendation forwarded with each plan to the State Board of Education. Upon action by the board, if approved, the department would notify each participating district of such approval and of the approved revenues from each source. The counties involved would also be notified of the approved increase in the ad valorem tax. For the first year, the state would fully fund ten percent of the total cooperative program cost with the remaining ninety percent provided through the combination of ad valorem taxes and state aid proportionate to the relative contributions of each revenue. After the first year, the entire program cost would be provided through the combination of ad valorem and aid.

Limitations

The following limitations would be applied to the cooperative programs:

a) For the continuation of programs which are already provided by one or more of the cooperating districts, no new levy authority or state aid would be accrued to those districts; provided, however, that the planning and first-year incentive support would still be provided by the state for all cooperative programs. Also, those cooperating districts that did not provide the program would still be eligible for the additional levy/aid combination. In addition, in the event that a board of education determined that financial exigency would force the elimination of a program, such program would be eligible for support under the cooperative aid/levy.

b) The total support provided to a school district through the aid and levy provided for herein may be limited by the legislature to a maximum amount per pupil per year.

c) Boards of education in districts with such cooperative programs would be required to meet jointly at least once each year for the purpose of evaluating such cooperative programs; approving the expansion, continuation, reduction, or elimination of programs; and certifying such action to the state department prior to reapproval of the aid/levy.

Conclusions

Support of cooperative programs by school districts as proposed above would allow for the establishment of new opportunities for students, increased levels of financial support for school districts, local control over decisions regarding the educational programs, and incentive for school district boards of education to jointly plan for their mutual needs and concerns. The opportunities would be available to all school districts, with the level of support by local taxpayers equalized across districts. Such a program would allow for local control while providing state incentives for local boards to assess the need for cooperation to benefit their students.

SUMMARY

We have discussed herein some conceptual aspects of alternate instructional delivery systems, reviewed some current and proposed operations, and discussed the various arrangements with educators from across the state of Oklahoma. Shown in Appendix III are a sampling of questions that should be posed and discussed by those planners and decision makers who are considering the benefits, problems, advantages, and disadvantages of embarking on a program of providing/maintaining an expanded or stable set of academic curriculum offerings for students in small and/or rural high schools in Oklahoma.

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Appendix I

The College Connection

Subject area	Local district requirements	Oklahoma high school graduation requirements beginning with 1986-87 graduates	(Beginning Fall 1988) Academic preparation for admission to public 2- & 4-year colleges & universities in Oklahoma	(Beginning Fall 1988) Junior college academic preparation for students not planning to earn an AA or AS degree & not planning to transfer to 4-year colleges or universities
		Required	Required	Recommended
English		**4 yrs**	**4 yrs** (grammar, composition, literature)	**4 yrs** (grammar, composition, literature)
Mathematics Algebra I Geometry District option		**2 yrs** 2 yrs	**3 yrs** 1 yr 1 yr 1 yr (algebra II, trig., analysis, calculus)	**3 yrs** 1 yr 1 yr 1 yr (algebra II, trig., analysis, calculus)
Science Lab science District option		**2 yrs** 2 yrs	**2 yrs** 2 yrs	**2 yrs** 1 yr 1 yr
Social Science American history (U.S.) Oklahoma history World history District option		**2 yrs** 1 yr 1 sem 1 sem	**2 yrs** 1 yr 1 yr	**2 yrs** 1 yr 1 yr
		10 additional units	**Recommended:** 4 years from elective academic units below	4 years from elective academic units below

ELECTIVE ACADEMIC UNITS
(Applies only to admission requirements for colleges & universities)

Priority academic elective:

Foreign language (2 yrs, same language)

Other acceptable electives:

Computer Science, Economics, English, Geography, Government, History, Math, Science, Speech, Sociology, Psychology

Experience in THE ARTS is strongly recommended.

Appendix II

Small School Cooperatives Grants

Fiscal Year 1986

STATE OF OKLAHOMA
SMALL SCHOOL COOPERATIVE GRANTS
FISCAL YEAR 1986

DISTRICT(S)	COUNTY	TYPE OF COOPERATIVE	FUNDING RECOMMENDED
Alex I-56	Grady	Higher Education (OSU-Foreign Language)	$14,521.00
Allen I-1	Pontotoc	Higher Education (OSU-Foreign Language)	10,970.00
Alluwe I-50	Nowata	Higher Education (OSU-Foreign Language)	13,071.00
Arkoma I-91	LeFlore	Higher Education (OSU-Foreign Language)	11,744.00
Balko I-75	Beaver	Higher Education (OSU-Foreign Language)	12,000.00
Barnsdall I-29	Osage	Higher Education (OSU-Foreign Language)	9,697.00
Battiest I-71	McCurtain	Higher Education (OSU-Foreign Language)	11,259.00
Big Cabin I-50	Craig	Higher Education (OSU-Foreign Language)	9,237.00
Bokoshe I-26 (Arkola, Pacoli)	LeFlore	Shared Teacher (Foreign Language)	25,000.00
Chattanooga I-132 (Grandfield, Geronimo)	Comanche	Shared Teacher (Foreign Language, Music)	22,941.00
Coalgate I-1 (Olney)	Coal	Shared Services/Higher Ed. (OSU-Foreign Language)	16,938.00
Coleman I-35 (Milburn, Wapanucka)	Johnston	Shared Teachers (Math, Science, Computer Ed. Foreign Language, Music)	46,373.00
Cordell I-78	Washita	Higher Education (OSU-Foreign Language)	9,853.00
Coyle I-14	Logan	Higher Education (OSU-Foreign Language)	9,328.00
Dale I-2	Pottawatomie	Shared Teacher (Foreign Language)	18,130.00

DISTRICT(S)	COUNTY	TYPE OF COOPERATIVE	FUNDING RECOMMENDED
Earlsboro I-5 (Bethel)	Pottawatomie	Shared Teacher (Foreign Language)	$28,416.00
Forgan I-123	Beaver	Higher Education (OSU-Foreign Language)	12,000.00
Fox I-74 (Graham)	Carter	Shared Teachers (Foreign Language, Music)	42,096.00
Geary I-80 (Hinton)	Blaine	Shared Teacher (Foreign Language)	27,272.00
Goodwell I-60 (Texhoma)	Texas	Shared Teachers (Foreign Language)	7,508.00
Granite I-3	Greer	Higher Education (OSU-Foreign Language)	9,504.00
Haileyville I-11 (Hartshorne)	Pittsburg	Shared Teacher (Foreign Language)	23,362.00
Hanna I-64	McIntosh	Higher Education (OSU-Foreign Language)	12,000.00
Indianola I-25 (Canadian)	Pittsburg	Shared Teachers (Math, Science, Music)	38,220.00
Jet-Nash I-4 (Helena-Goltry, Cherokee)	Alfalfa	Shared Teacher, Higher Ed. Northwestern Oklahoma State University (Computer Ed.)	14,600.00
Konowa I-4	Seminole	Shared Teachers, Higher Ed. (Science, Computer Ed.- Seminole Jr. College) (OSU-Foreign Language	30,000.00
Leedy I-3	Dewey	Higher Education (OSU-Foreign Language)	12,000.00
Lenapah I-1	Nowata	Shared Teachers & Service (Math, Science, Foreign Language, Computer Ed.)	16,482.00
Liberty D-1 (Belfonte)	Sequoyah	Shared Teacher (Computer Education)	20,000.00
Lomega I-3	Kingfisher	Higher Education (OSU-Foreign Language)	10,475.00

DISTRICT(S)	COUNTY	TYPE OF COOPERATIVE	FUNDING RECOMMENDED
Maryetta D-22 (Peavine, Rocky Mountain)	Adair	Shared Teachers (Science, Computer Ed.)	$25,000.00
Mason I-2	Okfuskee	Higher Education (OSU-Foreign Language)	12,000.00
McLish I-22	Pontotoc	Higher Education (OSU-Foreign Language)	12,972.00
Milburn I-29	Johnston	Higher Education (OSU-Foreign Language)	12,000.00
Moss I-1	Hughes	Higher Education (OSU-Foreign Language)	12,349.00
Mulhall-Orlando I-3	Logan	Higher Education (OSU-Foreign Language)	12,600.00
Ninnekah I-51	Grady	Higher Education (OSU-Foreign Language)	10,828.00
Norwood D-14	Cherokee	Shared Teacher (Math, Computer Ed.)	16,692.00
Paoli I-5	Garvin	Higher Education (OSU-Foreign Language)	12,680.00
Porum I-88	Muskogee	Higher Education (OSU-Foreign Language) (Conner's State College-Science, Computer Ed.)	20,919.00
Robin Hill D-16 (Little Axe)	Cleveland	Shared Teacher (Computer Education)	21,050.00
Rush Springs I-68	Grady	Higher Education (OSU-Foreign Language)	14,000.00
Salina I-16 (Chouteau, Locust Grove)	Mayes	Shared Teachers (Math, Science, Foreign Language, Computer Ed.)	50,000.00
Schwartz D-4 (Little Axe)	Cleveland	Shared Teacher (Music)	21,050.00
Snyder I-4 (Roosevelt, Indiahoma)	Kiowa	Shared Teacher & Services Higher Education (OSU) (Foreign Language, Band)	31,539.00

DISTRICT(S)	COUNTY	TYPE OF COOPERATIVE	FUNDING RECOMMENDED
South Rock Creek D-32 (Pleasant Grove)	Pottawatomie	Shared Teacher (Music)	$ 30,000.00
St. Louis D-66 (Vamoosa)	Pottawatomie	Shared Teacher (Music)	21,249.00
Stringtown I-7	Atoka	Higher Education (OSU-Foreign Language)	10,000.00
Stuart I-54	Hughes	Higher Education (OSU-Foreign Language)	16,000.00
Tupelo I-2	Coal	Higher Education (OSU-Foreign Language)	9,009.00
Varnum I-7 (Earlsboro)	Seminole	Shared Teacher (Math, Music)	24,960.00
Wayne I-10	McClain	Higher Education (OSU-Foreign Language)	12,000.00
Welch I-17 (Bluejacket)	Craig	Higher Education (OSU-Foreign Language)	9,613.00
Wynona I-30	Osage	Higher Education (OSU-Foreign Language)	10,000.00
Zion D-28 (Greasy, Dahlonegah, Christie, Skelly)	Adair	Shared Teachers (Science)	26,943.00
		TOTAL	$1,000,000.00

Appendix III

Questions That Should Be Asked

QUESTIONS THAT SHOULD BE ASKED

The authors have discussed some conceptual aspects of alternate delivery systems, reviewed some operations and proposed operations and discussed the various arrangements with educators from across the state of Oklahoma. The following are questions that have been posed and discussed, with a brief explanation.

Co-ops

1. **Will services be more manageable and/or economical?**

   The concept of a co-op is that the organization be kept informal so as not to create a larger organizational problem. If formation of a co-op creates management problems that are complex and expensive, it's formation should be carefully viewed.

2. **Will more students be served than would otherwise be possible?**

   The primary concern should be to meet the needs of students. If by bringing more students together they can be better served and/or served in a way that would not be possible in their home district, then there is advantage to the co-op.

3. **Is there a clear advantage to be gained from cooperation or pooling of resources?**

   All participants should gain from the co-op.

4. **Does the agenda address common problems, e.g., individual district needs, defined by the participants?**

   The co-op should solve problems for all its members.

5. **Will the commitment be long-term, i.e., more than two years?**

   The commitment should be long enough so that a trust relationship can be built and economy can be realized. Additionally, start-up costs have to be justified.

6. **Are there more than two, but fewer than nine participants?**

   Studies suggest that the co-op will be more workable if kept within these limits.

7. **Is distance between members reasonable?**

   Economy is always a consideration, and cost of transporting students long distances must be considered. Additionally, consideration should be given to the possible detrimental effects of long bus rides on students.

8. Is there a minimum of organizational structure?

The literature suggests that co-ops work best if their structure is informal and uncomplicated.

9. Is leadership informal?

Leadership also should be informal so that it is economical and uncomplicated.

10. Is the existence based on documented needs?

A needs assessment by all the participants should justify participation in a co-op.

Distance Learning

1. Are course offerings expanded?

Distance learning activities should supplement and not supplant.

2. Are the offerings economical? Over long-term?

Distance learning activities offer economy, but schools should analyze their long-term needs. Start-up costs can be expensive; however, long-term economy is probable.

3. Are class size restrictions and lack of subject-matter certificated teachers eliminated as problems?

Distance learning can potentially eliminate class size restrictions (both large and small size), a clear advantage. In many schools it can eliminate the problem of finding certified teachers (in foreign language, for example).

4. Does it effectively match expert instruction with maximum number of students?

A definite advantage of the use of technology is to match highly qualified teachers with the largest number of students possible.

5. Are local autonomy and local control retained to a greater extent than with other alternatives?

The use of technology may allow small rural schools to offer subjects in the local districts, thereby allowing the district to maintain local control.

6. Is the technology compatible with the topography of the area?

A microwave network which requires flat terrain will work in western Oklahoma, but would be of questionable value in many parts of eastern Oklahoma.

Finance

1. **How are costs shared? Per pupil? Per school?**

   The participants of co-ops may vary considerably in size and wealth. Some districts may wish to consider one another's financial condition. Special conditions may dictate that each school pay an equal amount for a time and then go to a per pupil schedule later.

2. **Is there provision for cooperatives to continue after seed-grant money is expended?**

   Grants are usually "seed money," so districts should consider continuing costs.

3. **Are start-up costs realistic?**

   A study of long-term needs should be done so that it can be determined if start-up costs will be justified.

4. **Are provisions made to divide in-place resources if the system is abandoned?**

   Since co-ops are usually informally organized, there may not be provisions made for joint ownership of in-place resources that are acquired.

5. **Are provisions made to pay indirect costs of each LEA?**

   A common provision in grants is to allow some money to be used for "indirect costs;" that consideration may need to be a part of a co-op agreement.

6. **Will the LEA budget support the start-up cost until grant funding arrives?**

   In a time of dwindling resources, consideration must be given to how to fund the co-op initially. Members may have to budget money to be paid to the LEA to cover initial costs.

Statutory/Regulatory Questions

1. **How do we contend with the requirement that vo-techs teach vocational subjects?**

   Regulations currently do not allow any non-vocational subject to be taught on vo-tech campuses. If they are to be used as an intermediate unit, that regulation would have to be changed.

2. **What would the standard school day and class period be?**

   Some alternate delivery systems might function best in an arrangement other than the standard six-hour school day and/or 55 and 45 minute class periods that are now in place.

3. **How can we modify the requirement that elected boards act as fiscal agent for funds?**

   Regulations require that an elected board act as fiscal agent for expenditures of public money. The Board of an LEA might, for example, desire to delegate responsibility for co-op activities. Creation of an "informal," "extra legal" board to oversee co-op activities (i.e., county superintendent to serve as executive officer of a board made up of administrators from participating schools) might be a possibility.

4. **Who grants "credit" for alternate delivery classes?**

   Decisions must be made about how and where credit is given. As alternate delivery systems become more numerous, administrators may wish to denote credit as being earned by some alternate method.

5. **Teacher certification--satellite teachers and monitors?**

   Administrators will have to decide on requirements for teachers who, for example, monitor satellite programs.

6. **Should we provide for separate pay schedules, benefits packages, tenure, and staff development programs for co-op teachers?**

   Several aspects of the unique function of the co-op need to be considered as they relate to personnel. Schools may wish to standardize pay, benefits, and staff development activities for co-op teachers to minimize the problems associated with changing the LEA. Also, since teachers are legally associated with the school that serves the LEA, some provisions need to be made concerning the acquisition of tenure. It might be helpful if tenure could be acquired with the co-op but not with the LEA.

7. **Can we provide for separate accounting of co-op funds by LEA?**

   Accounting procedures need to be looked at to minimize the problems associated with comingling co-op funds with the LEA funds.

8. **What about regulations of the Activities Association which prevent co-op students (for example) from marching in band contests when they are part of a co-op band class, as well as regulations that apply to music, debate, and, potentially, even athletics.**

   One school (LEA) had made an inquiry with the activities association about co-op (band) students being able to attend band activities and march with the band in state contests of which they are a part. The response was: NO!!!!

9. **What provisions can be made for students taking classes that involve state sponsored activities?**